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**Notice of Allowability**

Application No.

10/029,530

Examiner

Terry L. Englund

Applicant(s)

HIROSE ET AL.

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**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--**

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to Amdt (Feb 8, 2005).
2. ☒ The allowed claim(s) is/are 1, and 4-21 (now renumbered as 1, 11, 2, 12, 3-7, 13, 8-10, and 14-19, respectively for printing purposes).
3. ☒ The drawings filed on 25 May 2004 are accepted by the Examiner.
4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) ☐ All    b) ☐ Some\*    c) ☐ None    of the:
    1. ☐ Certified copies of the priority documents have been received.
    2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
    3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.  
**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
  6. ☐ CORRECTED DRAWINGS ( as "replacement sheets") must be submitted.
    - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review ( PTO-948) attached
      - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date \_\_\_\_\_.
    - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

**Attachment(s)**

- |   |   |
|---|---|
| 1. <input type="checkbox"/> Notice of References Cited (PTO-892)  | 5. <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)           |
| 2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                | 6. <input type="checkbox"/> Interview Summary (PTO-413),<br>Paper No./Mail Date _____ |
| 3. <input type="checkbox"/> Information Disclosure Statements (PTO-1449 or PTO/SB/08),<br>Paper No./Mail Date _____ | 7. <input checked="" type="checkbox"/> Examiner's Amendment/Comment                   |
| 4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit<br>of Biological Material          | 8. <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance  |
|   | 9. <input type="checkbox"/> Other _____   |

  
TUAN T. LAM  
PRIMARY EXAMINER

## **DETAILED ACTION**

### ***Response to Amendment***

The amendment submitted on Feb 8, 2005 was reviewed and considered with the following results:

Amended claim 21 overcame its objection, which has been withdrawn.

Amended claim 16 overcame its rejections under 35 U.S. 102(b)/(e) with respect to Hollingsworth et al./Yamaki et al. Therefore, these prior art rejections have been withdrawn. Neither of these references shows nor discloses the first switch as a p-channel transistor (with its gate coupled to a positive supply voltage signal) as now recited, and there is no strong motivation to replace the first switch of either reference with a p-channel transistor.

Therefore, there is no known objection or rejection remaining within the present application.

### ***Reasons for Allowance***

The following is an examiner's statement of reasons for allowance:

None of the prior art references reviewed and considered shows or discloses the high voltage discharging circuit (or method) as recited within the claims. More specifically, none of the references clearly shows or discloses: 1) the fourth switch for clamping the high voltage signal to ground as recited within claims 1 (upon which claims 5, 7-11, and 13-15 depend), 12, and 17; 2) the fourth and fifth switches as recited within claim 4; 3) the fourth switch and control logic as recited within claim 6; 4) the first switch is a p-channel transistor, with its gate coupled to a positive supply voltage signal, as now recited within claim 16; and 5) a clamping device, sensing the discharge, for activating when the high voltage signal approaches the supply line

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voltage level as recited within claim 18 (upon which claims 19-21 depend). Since there is no strong motivation to modify or combine any prior art reference(s) to ensure a circuit for discharging a high voltage comprises at least the first-third switches, and any of the above limitations with respect to the apparatus claims, or the clamping/activating step as recited within claim 18, the claims are deemed patentably distinct over the prior art of record.

Claims 1, and 4-21 are allowed, and have been renumbered as 1, 11, 2, 12, 3-7, 13, 8-10, and 14-19, respectively for printing purposes. The renumbering takes into account the cancellation of claims 2-3, and regroups the claims together with respect to their independent claim (e.g. claims 5, 7-11, and 13-15 all depend on claim 1).

Any comments considered necessary by the applicants must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Any inquiry concerning this communication, or previous communications, from the examiner should be directed to Terry L. Englund whose telephone number is (571) 272-1743. The examiner can normally be reached Monday-Friday from 7 AM to 3 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tim Callahan, can be reached on (571) 272-1740.

The new central official fax number is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (571) 272-1562. Information regarding the status of an application may be obtained from the Patent Application

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Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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Terry L. Englund

12 May 2005



TUAN T. LAM  
PRIMARY EXAMINER